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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/635,243	08/06/2003	Hisashi Aruga	9319S-000533	6610
27572	7590	11/28/2005		EXAMINER
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			MASINICK, MICHAEL D	
			ART UNIT	PAPER NUMBER
			2125	

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/635,243	ARUGA, HISASHI	
	Examiner Michael D. Masinick	Art Unit 2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 04 October 2005.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-18 is/are pending in the application.
 4a) Of the above claim(s) 13-18 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-4 and 6-12 is/are rejected.
 7) Claim(s) 5 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/15/03, 8/30/05, 9/15/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 13-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 10/4/2005. Examiner has reviewed the restriction requirement and it is found to be correct. This restriction requirement is made final.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,025,012 to Matsuda et al.

4. Referring to claim 1, Matsuda shows a manufacturing system comprising: a discharger for discharging a liquid material having fluidity onto a substrate (Column 1, lines 10-12); communication means for transmitting and receiving data through a communication line (Column 10, lines 24-38 – “input/output devices”); and monitoring means for monitoring the state of the discharger and for outputting data obtained by the monitoring means through the communication means (Column 2, lines 36-46 – “state detecting means”).

5. Referring to claim 2, Matsuda shows wherein the monitoring means determines whether or not an abnormality has occurred based on the monitor data and outputs a warning signal through the communication means when an abnormality has occurred (Column 17, line 57 – Column 18, line 37 detail the occurrences that happen when a temperature change does or does not occur. If the reading of a temperature sensor is over a certain threshold, one action is taken which is consistent with the plan. If the temperature is under the threshold, other actions are taken to fix the situation which is tantamount to a warning.).

6. Referring to claim 3, Matsuda shows wherein when the monitoring means receives a control command through the communication means, the monitoring means controls operation of the discharger in accordance with the control command (Column 9, line 47 – Column 10, line 4).

7. Referring to claim 4, Matsuda shows wherein the discharger comprises a liquid drop discharge head for discharging the liquid material, and a drive circuit for outputting a drive signal for controlling the discharging carried out by the liquid discharge head (Column 1, lines 46-63) ; and at least one of a drive signal input portion of the liquid drop discharge head and the drive circuit are shielded so as not to be accessible from the outside (Figure 1 shows “head mover 6” attached to a frame which examiner considers to be shielded). The later part of this claim is open to interpretation and does not seem to be related to the technological invention set forth.

8. Referring to claim 9, Matsuda shows wherein the discharger measures an operable state time of the liquid drop discharge head, the operable state time for action discharging the liquid material, maintaining the liquid material in a dischargeable state, and waiting for the discharge

operation; and the monitoring means obtains and outputs the measured operable state time (“Nozzle discharge time” – Column 14, lines 26-53).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1, 4, 6-8, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,025,012 to Matsuda et al in view of U.S. Patent No. 6,130,682 to Kohno et al.

11. With respect to what has been shown above, Matsuda shows detection means wherein upon the occurrence of an error, notification or corrective action is taken. Examiner notes that Matsuda shows all elements of claim 1 and 4 as shown above, however claims 8 and 11 are dependant only upon claim 4 and requires a similar 103 rejection as claims 6 and 7.

12. Matsuda does not specifically show that this detection is a discharge failure detection.

13. Kohno shows an ink jet recording apparatus with detection of discharge malfunction (title). Column 2 of Kohno shows the techniques by which the detection of a discharge malfunction is made.

14. It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the discharge malfunction detection means of Kohno as one of the detection means of Matsuda because discharge malfunction can be indicative of a shortage of ink or

inferior discharge of ink which would require intervention from a user to remedy (Kohno, column 1, lines 59-65).

15. Referring to claim 7, Kohno shows multiple nozzles (“nozzle array” – column 2, line 22).
16. Referring to claim 8, Kohno shows wherein the discharger outputs a notification signal indicating the generation of a drive signal pulse, and the monitoring means outputs data for counting the cumulative number of dots discharged from the liquid drop discharge head based on the notification signal (Column 1, line 59 – Column 2, line 8). Examiner notes that the “count” of ink droplets is reset for each intended discharge.
17. Referring to claim 11, Kohno shows a storage container with remaining amount detection means (Columns 2 and 3 detail keeping track of total printed amount related to the ink well and notification when the amount of ink remaining is low enough to avoid malfunction of the ink cartridge).
18. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,025,012 to Matsuda et al in view of U.S. Patent No. 5,896,292 to Hosaka et al.
19. Matsuda does not show wherein the discharger counts the number of manufactured products and outputs the count value.
20. Hosaka shows an automated system for a production and manufacturing facility. In paragraph 91, Hosaka shows “The production performance value is used below as a generic expression of data relating to the production performance of the production line, such as the success rate (number) of manufactured articles, the failure rate (number) of the manufactured articles and the rate of operation of the production line.”

21. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the count system of Hosaka as a way to count the number of articles manufactured by Matsuda because it allows a user to provide an automated system in which the operating status of a production facility can be identified with ease even when the production facility has developed a problem (paragraph 15 of Hosaka).

22. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,025,012 to Matsuda et al in view of U.S. Patent No. 5554891 to Shimizu et al.

23. Matsuda does not show removal detection means for detecting removal of an predetermined part in the discharger.

24. Removal detection is a well known piece of many security systems for all types of devices. Shimizu shows a security system for an automobile which uses removal detection to prevent theft (Paragraph 36).

25. It would have been obvious to one of ordinary skill at the time the invention was made to use a removal detection technique as set forth in Shimizu to maintain the security of the system of Matsuda because theft of property (or in the case of Matsuda, potentially intellectual property) is generally considered to be negative. Shimizu acts by "inhibiting such reconnection of a broken circuit" which will prevent unauthorized use or access.

Allowable Subject Matter

Art Unit: 2125

26. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael D. Masinick whose telephone number is (571) 272-3746. The examiner can normally be reached on Mon-Fri, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



MDM

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